

7. Describe the process of purification and characterization of enzymes from plant sources.

Or

Describe history and scope of bioinformatics.

Printed Pages : 4

EBT-104

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 9588

Roll No.

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B. Tech.

(Semester-I) Theory Examination, 2011-12

INTRODUCTION TO BIOTECHNOLOGY

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all questions.

Section-A

1. Attempt *all* parts of the following : $2 \times 10 = 20$
- (a) What is GMO ?
 - (b) Define unit operation and unit process.
 - (c) What is peptide bond ?
 - (d) What is the Lock and Key model proposed for an enzyme action ?
 - (e) What are fats ?
 - (f) What are the various classifications of microbes ?

- (g) Mention the various types of chromatography techniques.
- (h) What is Bioinformatics ?
- (i) What is FASTA file format in bioinformatics ?
- (j) Define genome and gene.

Section-B

2. Attempt any *three* parts of the following : $10 \times 3 = 30$
- (a) Explain the structure and function of proteins.
 - (b) Discuss the benefits of stem cell research ? What are the bioethical issues in biotechnology ?
 - (c) Compare the characteristics of prokaryotes with eukaryotes. How are they useful in biotechnology ?
 - (d) Give a detailed account of biological databases.
 - (e) What is Genomics ? Write a note on human genome sequencing project.

Section-C

Attempt *all* questions : $10 \times 5 = 50$

3. What are carbohydrates ? Write the function of carbohydrates.

Or

Discuss the application of microbes in fermentation biotechnology.

4. What is SNPs ? Explain the techniques used in finding the SNPs within genome.

Or

Describe the material and energy principles of biotechnology.

5. What is gene prediction ? Explain in brief about the gene prediction algorithms.

Or

Discuss the applications of biotechnology in food and agriculture sector.

6. Give the different classifications and scope of enzymes.

Or

Discuss the biosafety issues related to genetically modified organism.